Algebra 3-4 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per:\_\_\_\_\_

Unit 2 Day 1 PreTest Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Describe the transformations of $f\left(x\right)=x^{2}$ for the function below:

 $g\left(x\right)=-\left(x+3\right)^{2}+2$

1. What is the vertex of $g\left(x\right)=-\left(x+3\right)^{2}+2$?
2. Write $y=x^{2}+4x+1$ in vertex form.
3. Given the following parent functions, match the parent function with its graph.

**Parent Functions:**

1. Cubic $f\left(x\right)=x^{3}$
2. Square Root $f\left(x\right)=\sqrt{x}$
3. Absolute Value $f\left(x\right)=\left|x\right|$
4. Linear $f\left(x\right)=x$
5. Quadratic $f\left(x\right)=x^{2}$

**Graphs:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Graphing Linear Functions:**

Graph the lines y= 3x+1, y=5x+1, and y= -2x+3 on the axes below.

 

Describe how, when given an equation in “y=mx+b” form, you can draw an accurate. Be specific and detailed.

What is the difference between a positive and negative slope?

**Graphing Quadratic Functions:**

Graph the parabolas $y=x^{2}$, $y=x^{2}+3$, and $y=(x+3)^{2}$ on the axes below.



Describe what “adding 3” can do to the graph of a parabola. Be specific and detailed. In particular, describe the difference between “adding 3 inside the parentheses” and “adding 3 to the end of the equation.”